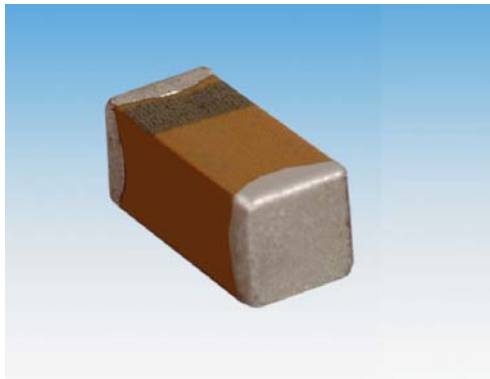


TPC Series

Low ESR TACmicrochip®



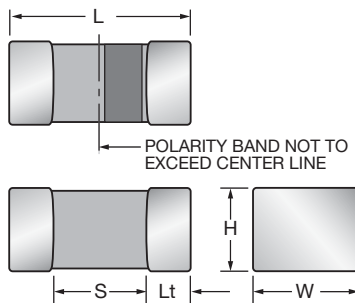
- Low ESR TACmicrochip® capacitor
- Smallest and low profile tantalum
- CV range: 1.0-47 μ F / 3-16V
- 3 key case sizes available
- Power supply applications



LEAD-FREE



RoHS COMPLIANT



CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	Length (L)	Width (W)	Height (H)	Termination Spacing(S)	Minimum Termination Length (Lt)	Average Mass
K	0402	1005-07	1.00 $\begin{smallmatrix} +0.20 \\ -0.00 \\ +0.008 \\ -0.000 \end{smallmatrix}$ (0.039 -0.000)	0.50 $\begin{smallmatrix} +0.20 \\ -0.00 \\ +0.008 \\ -0.000 \end{smallmatrix}$ (0.020 -0.000)	0.50 $\begin{smallmatrix} +0.20 \\ -0.00 \\ +0.008 \\ -0.000 \end{smallmatrix}$ (0.020 -0.000)	0.40 min	0.10 (0.004)	2.0mg
L	0603	1608-10	1.60 $\begin{smallmatrix} +0.20 \\ -0.00 \\ +0.008 \\ -0.000 \end{smallmatrix}$ (0.063 -0.000)	0.85 $\begin{smallmatrix} +0.15 \\ -0.00 \\ +0.006 \\ -0.000 \end{smallmatrix}$ (0.033 -0.000)	0.85 $\begin{smallmatrix} +0.15 \\ -0.00 \\ +0.006 \\ -0.000 \end{smallmatrix}$ (0.033 -0.000)	0.55 min	0.15 (0.006)	8.6mg
R	0805	2012-15	2.00 $\begin{smallmatrix} +0.20 \\ -0.00 \\ +0.008 \\ -0.000 \end{smallmatrix}$ (0.079 -0.000)	1.35 $\begin{smallmatrix} +0.15 \\ -0.00 \\ +0.006 \\ -0.000 \end{smallmatrix}$ (0.053 -0.000)	1.35 $\begin{smallmatrix} +0.15 \\ -0.00 \\ +0.006 \\ -0.000 \end{smallmatrix}$ (0.053 -0.000)	0.70 min	0.15 (0.006)	29.9mg

HOW TO ORDER

TPC	R	106	M	010	R	1800
Type TACmicrochip®	Case Size 0402=K 0603=L 0805=R	Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	Tolerance K=±10% M=±20%	Rated DC Voltage 003=3Vdc 004=4Vdc 006=6.3Vdc 010=10Vdc 016=16Vdc 020=20Vdc 025=25Vdc	Packaging (see table below)	Maximum ESR in Milliohms See note below

Packaging Suffix

Reel Size	Standard Tin Termination Plastic Tape	Gold Termination Plastic Tape	Standard Tin Termination Plastic Tape	Gold Termination Plastic Tape
Case	R/L	R/L	K	K
7"	Rxxxx	Axxxx	Pxxxx	Mxxxx
4¼"	Xxxxx	Fxxxx	Qxxxx	Nxxxx

NOTE: xxxx = ESR Value in Milliohms

TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C								
Capacitance Range:	1 μ F to 47 μ F								
Capacitance Tolerance:	±10%; ±20%								
Leakage Current DCL:	0.01CV or 0.5 μ A whichever is the greater								
Rated Voltage (V_R)	≤ +85°C:	3	4	6.3	10	16	20	25	
Category Voltage (V_C)	≤ +125°C:	2	2.7	4	7	10	13	17	
Surge Voltage (V_S)	≤ +85°C:	3.9	5.2	8	13	20	26	32	
Surge Voltage (V_S)	≤ +125°C:	2.6	3.2	5	8	12	16	20	
Temperature Range:	-55°C to +125°C								
Reliability:	1% per 1000 hours at 85°C, V_R with 0.1 Ω /V series impedance, 60% confidence level								
Termination Finish:	Nickel and Tin Plating (standard), Nickel and Gold Plating option available upon request								



LOW ESR RANGE

(LETTER DENOTES CASE SIZE) (ESR in mΩ)

Capacitance		Voltage Rating DC (V _R) at 85°C							
μF	Code	2.0V	3.0V	4.0V	6.3V	10V	16V	20V	25V
1.0	105					L(5000)			R(3000)
1.5	155								
2.2	225				K(8000)				
3.3	335					L(5000)			
4.7	475		K(8000)			L(5000) ^(M)		R(1500)*	
6.8	685								
10	106				L(4000) ^(M)	H(2500)* L(4000) ^(M) ,R(1800)	R(1800)		
15	156				R(1800)	R(1500)			
22	226			R(1800)/L(5000) ^(M)	R(1500)	R(1500)*			
33	336		R(1800)	H(1500)* ^(M) /R(1500)					
47	476		R(1500)		R(1800)				
68	686								
100	107			R(1000)* ^(M)					

Codes shown are examples of ESR values offered on certain CV and case size. Other codes and ESR values available upon request.

Released codes ^(M tolerance only)

*Code under development – subject to change

Note: Voltage ratings are minimum values. AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards

RATINGS & PART NUMBER REFERENCE

AVX Part No.	EIA	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	100kHz Ripple Current Ratings (A)			100kHz Ripple Voltage Ratings (V)		
								25°C	85°C	125°C	25°C	85°C	125°C
TPCK475*003#8000	0402	K	4.7	3.0	0.5	12	8000	0.043	0.039	0.017	0.346	0.312	0.139
TPCR336*003#1800	0805	R	33	3.0	1.0	10	1800	0.158	0.142	0.063	0.285	0.256	0.114
TPCR476*003#1500	0805	R	47	3.0	1.5	10	1500	0.173	0.156	0.069	0.260	0.234	0.104
TPCL226M004#5000	0603	L	22	4.0	0.9	6	5000	0.071	0.064	0.028	0.354	0.318	0.141
TPCR226*004#1800	0805	R	22	4.0	0.9	8	1800	0.158	0.142	0.063	0.285	0.256	0.114
TPCH336M004#1500	0805	H	33	4.0	1.3	14	1500	0.163	0.147	0.065	0.245	0.221	0.098
TPCR336*004#1500	0805	R	33	4.0	1.3	10	1500	0.173	0.156	0.069	0.260	0.234	0.104
TPCR107M004#1000	0805	R	100	4.0	4.0	30	1000	0.212	0.191	0.085	0.212	0.191	0.085
TPCK225*006#8000	0402	K	2.2	6.3	0.5	8	8000	0.043	0.039	0.017	0.346	0.312	0.139
TPCL106M006#4000	0603	L	10	6.3	0.6	10	4000	0.079	0.071	0.032	0.316	0.285	0.126
TPCR156*006#1800	0805	R	15	6.3	0.9	8	1800	0.158	0.142	0.063	0.285	0.256	0.114
TPCR226*006#1500	0805	R	22	6.3	1.4	10	1500	0.173	0.156	0.069	0.260	0.234	0.104
TPCR476M006#1800	0805	R	47	6.3	3.0	20	1800	0.158	0.142	0.063	0.285	0.256	0.114
TPCL105*010#5000	0603	L	1.0	10.0	0.5	6	5000	0.071	0.064	0.028	0.354	0.318	0.141
TPCL335*010#5000	0603	L	3.3	10.0	0.5	8	5000	0.071	0.064	0.028	0.354	0.318	0.141
TPCL475M010#5000	0603	L	4.7	10.0	0.5	10	5000	0.071	0.064	0.028	0.354	0.318	0.141
TPCH106*010#2500	0805	H	10	10.0	1.0	8	2500	0.126	0.113	0.050	0.100	0.09	0.040
TPCL106M010#4000	0603	L	10	10.0	1.0	20	4000	0.079	0.071	0.032	0.316	0.285	0.126
TPCR106*010#1800	0805	R	10	10.0	1.0	8	1800	0.158	0.142	0.063	0.285	0.256	0.114
TPCR156*010#1500	0805	R	15	10.0	1.5	10	1500	0.173	0.156	0.069	0.260	0.234	0.104
TPCR226*010#1500	0805	R	22	10.0	2.2	14	1500	0.173	0.156	0.069	0.260	0.234	0.104
TPCR106*016#1800	0805	R	10	16.0	1.6	10	1800	0.158	0.142	0.063	0.285	0.256	0.114
TPCR475M020#1500	0805	R	4.7	20.0	0.9	8	1500	0.173	0.156	0.069	0.260	0.234	0.104
TPCR105*025#3000	0805	R	1.0	25.0	0.5	8	3000	0.122	0.110	0.049	0.367	0.331	0.147

*Insert K for ±10% and M for ±20% Capacitance Tolerance

Refers to termination finished and packaging reel size

MSL level: See page 114 (6. Moisture Sensitivity Level) or packaging and reel label.

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for Low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalog limit post mounting.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.